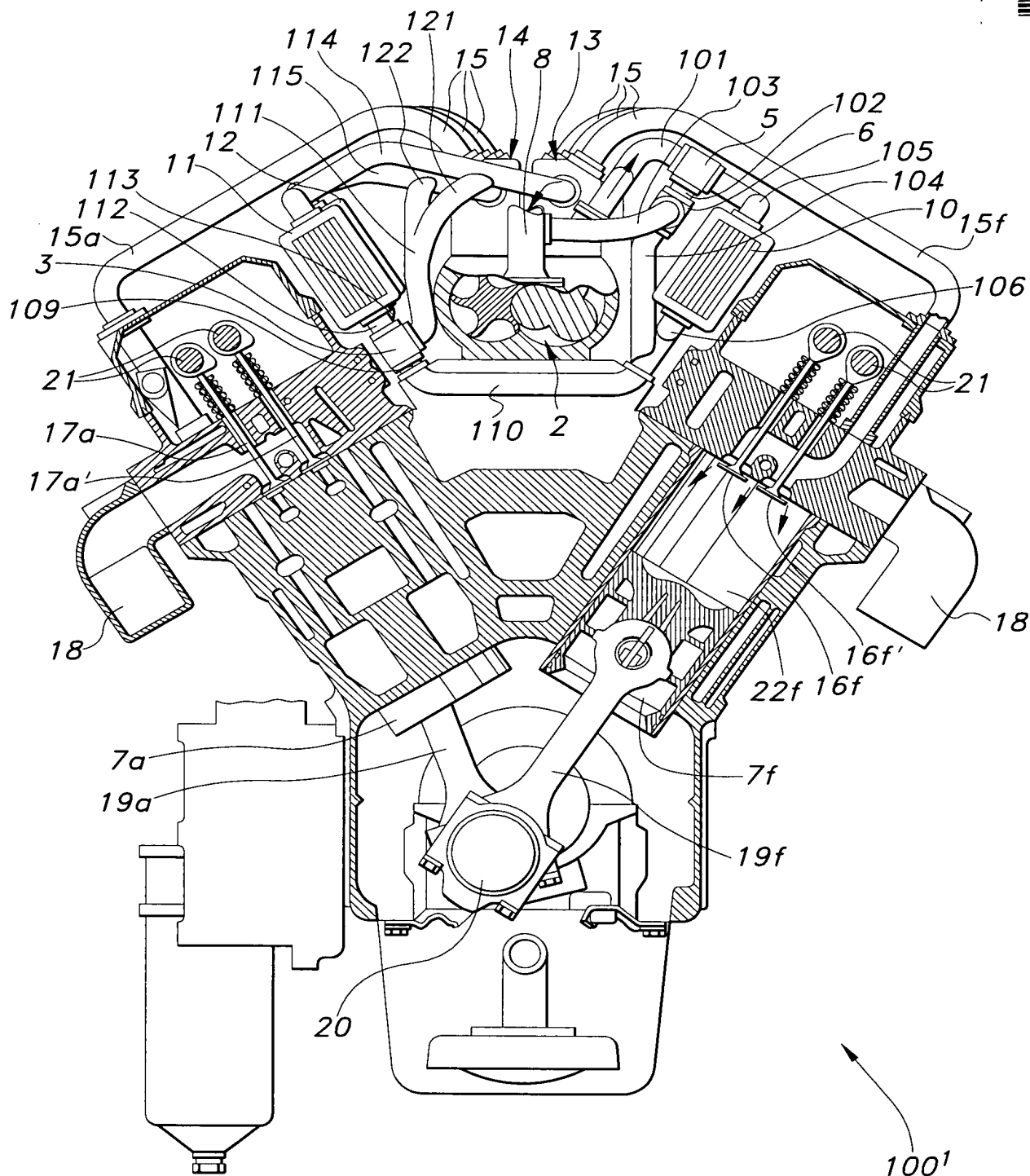
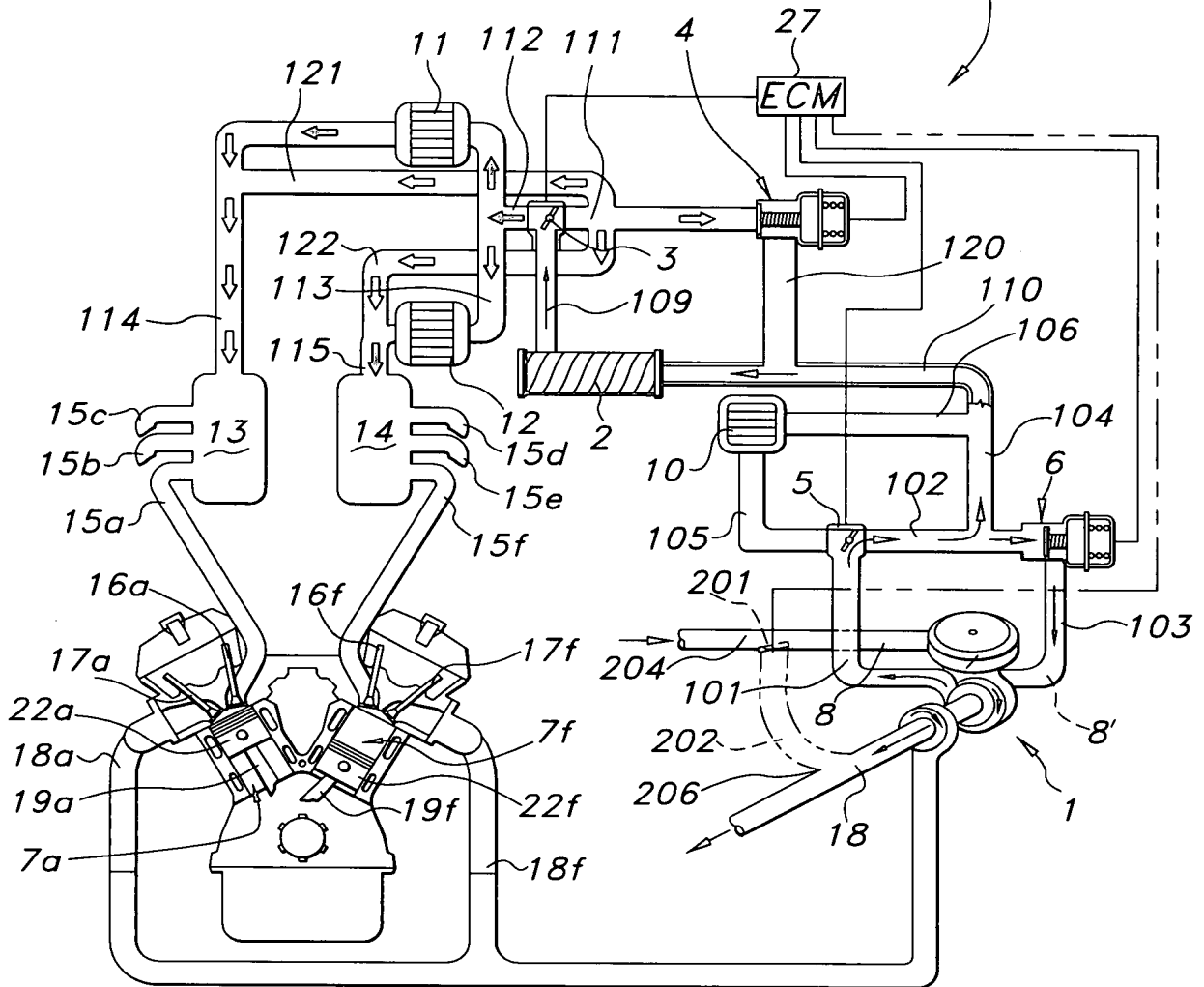
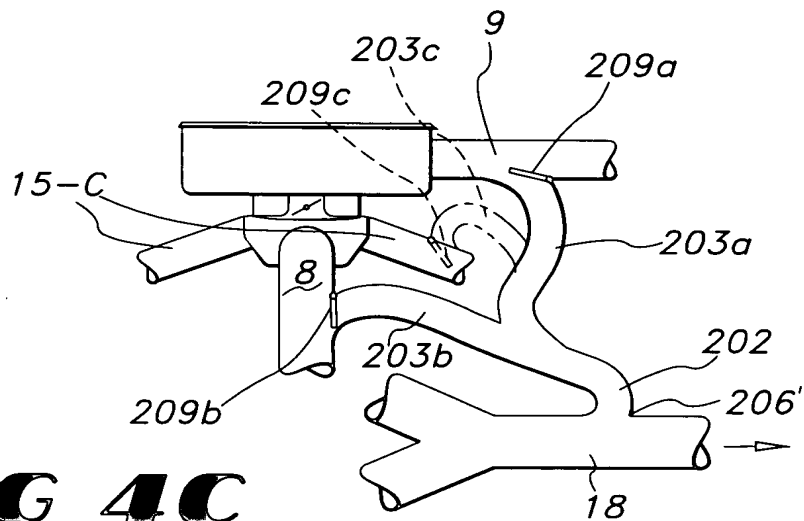


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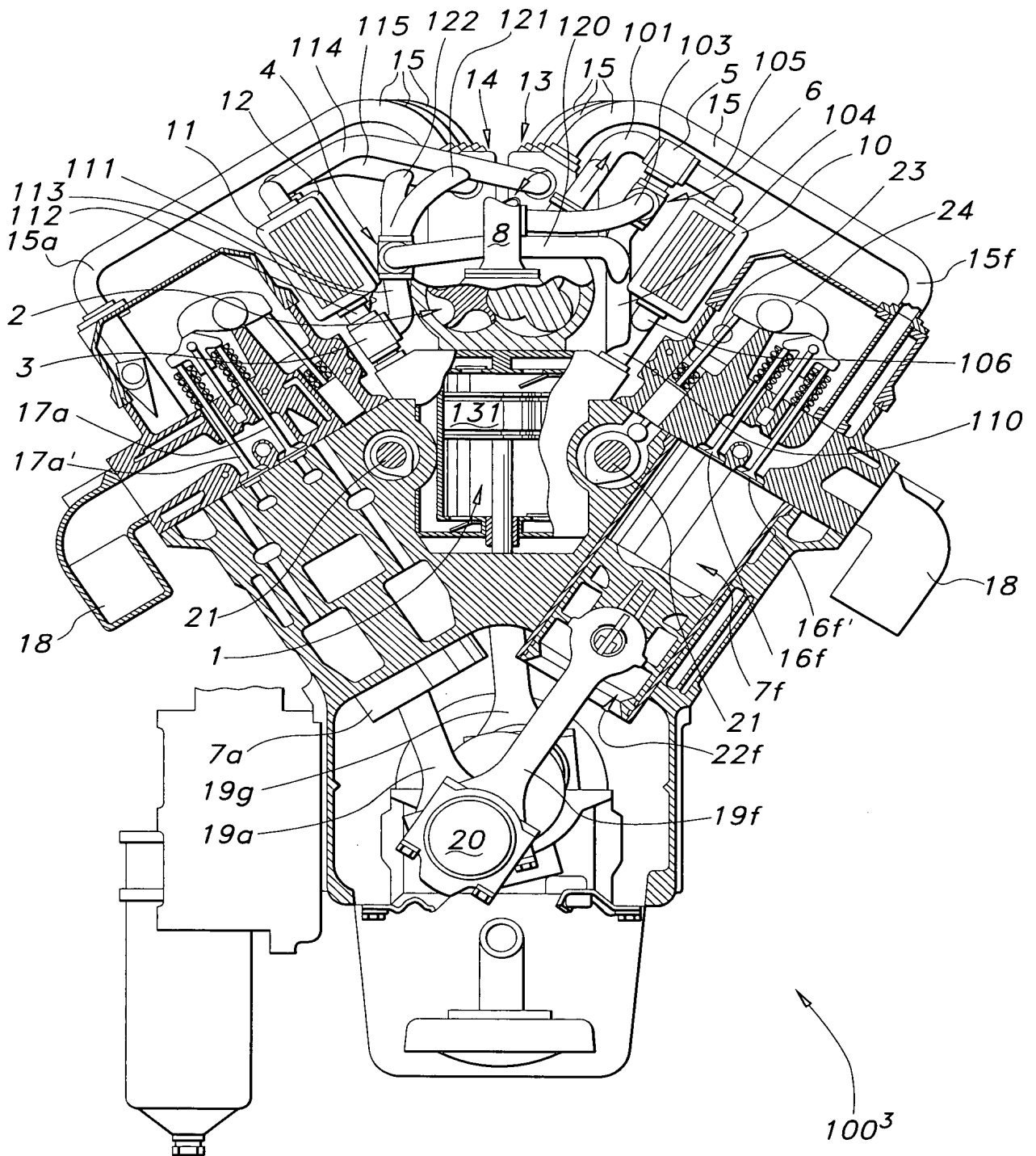
APPROVED BY DRAFTSMAN  
CLASS SUBCLASS  
O C FIG



**FIG 1**

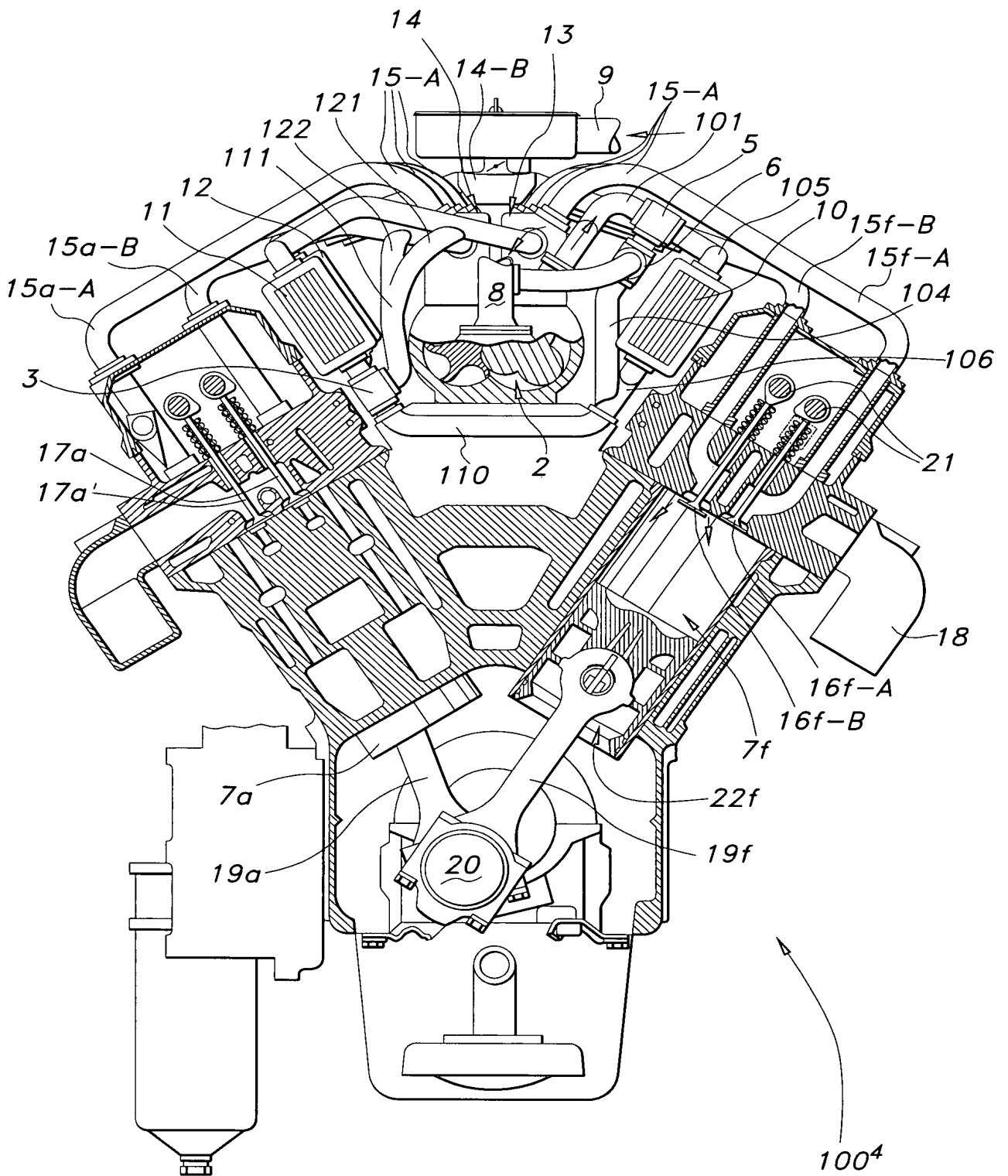
**FIG 2**

**FIG 4C**

**FIG 3**

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

O.G. FIG.	
CLASS	SUBCLASS
APPROVED	BY
DRAFTSMAN	



**FIG 4**

APPROVED	O.G. FIG.
BY	CLASS / SUBCLASS
DRAFTSMAN	

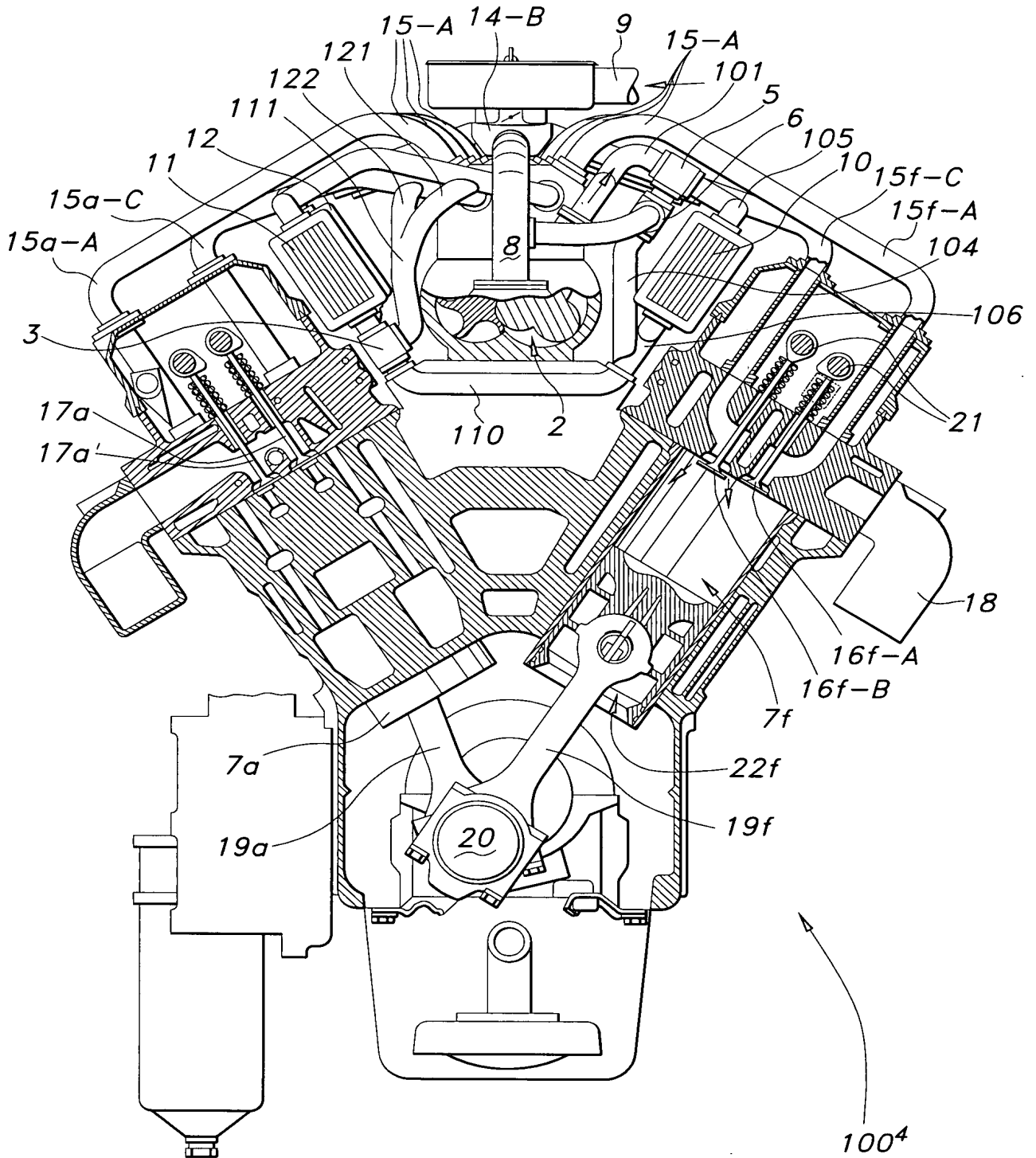
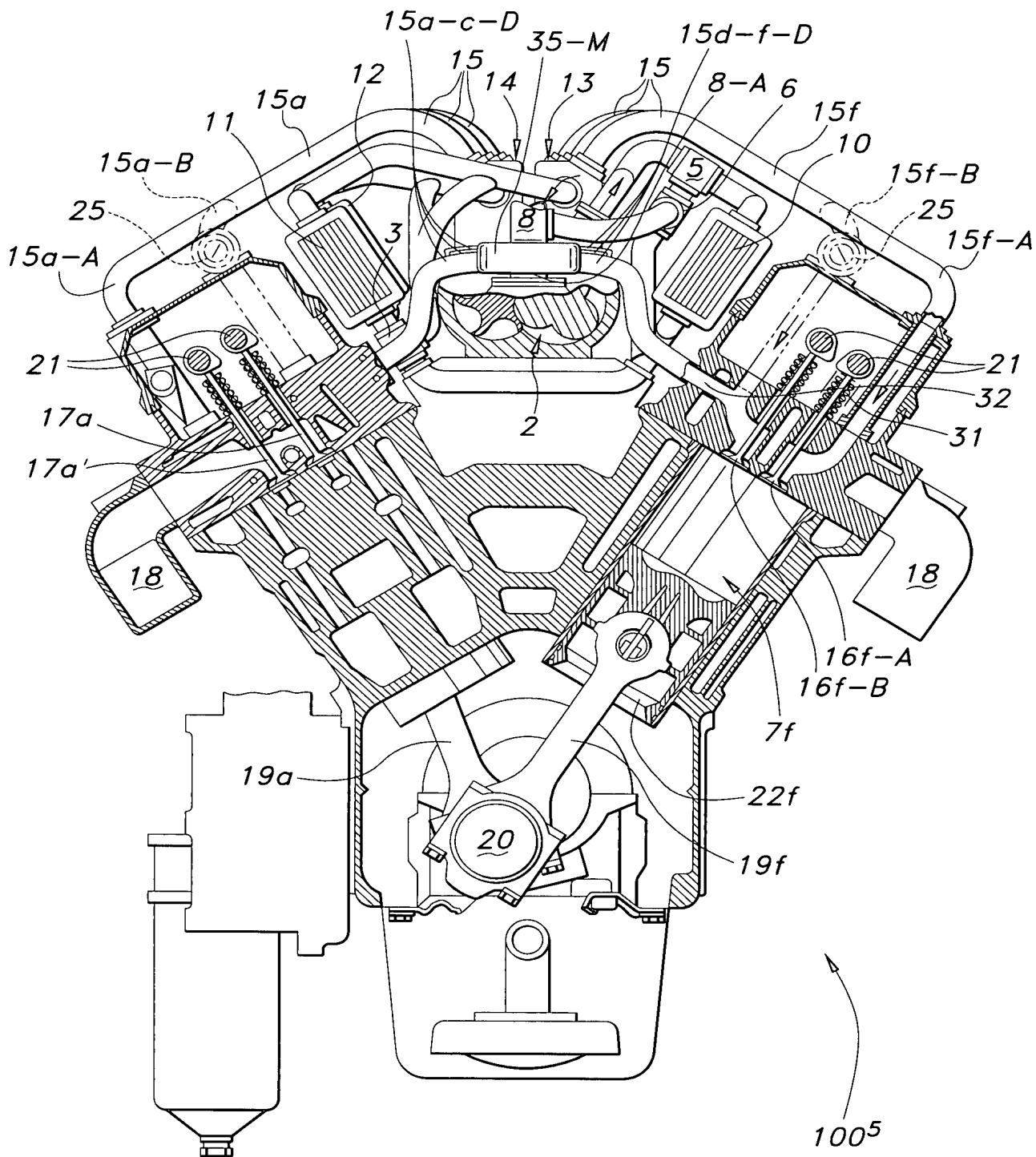


FIG 4B

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APPROVED	BY	DRAFTSMAN
CLASS	SUBCLASS	

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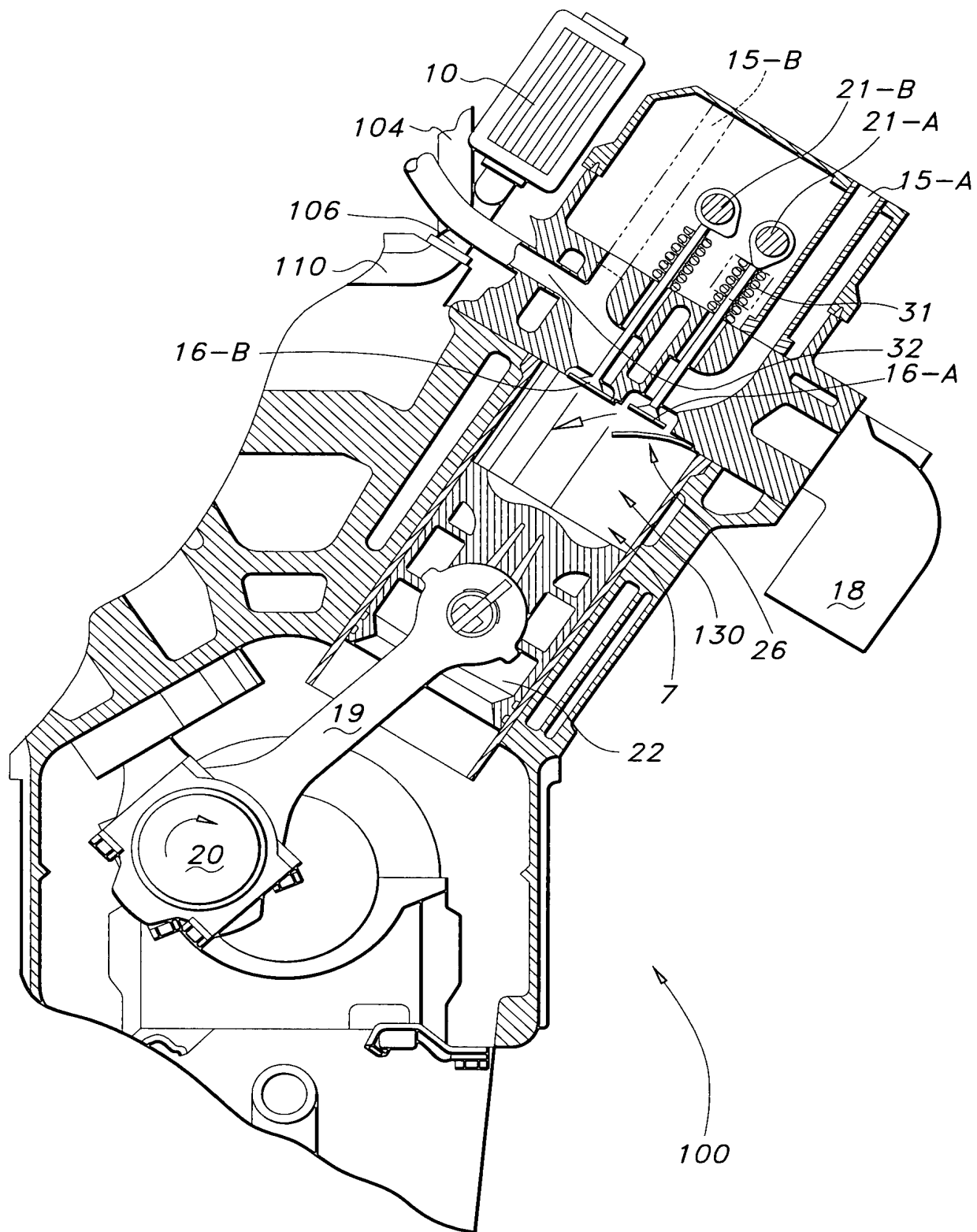


**FIG 5**

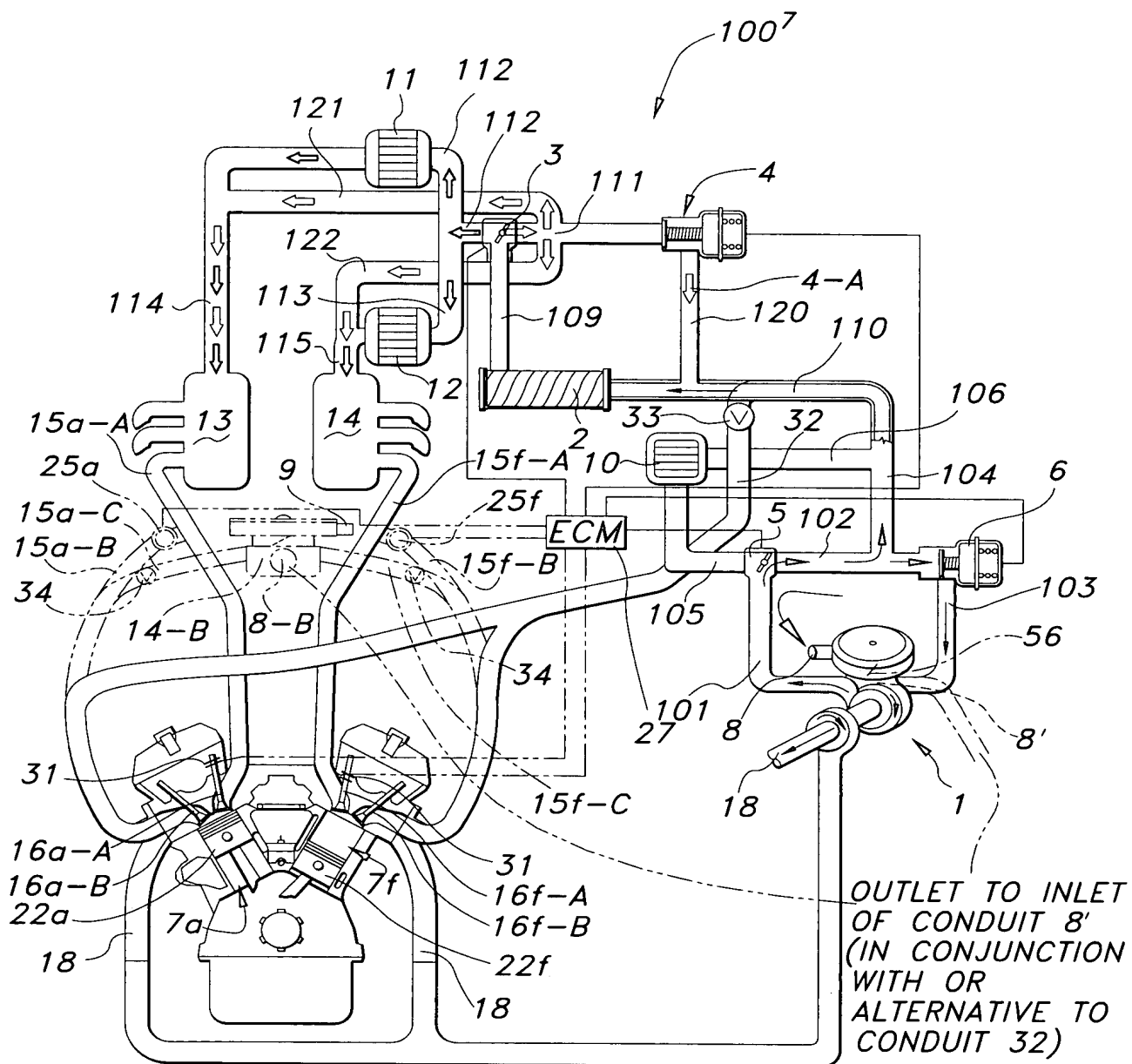
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APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

DATE: 11-11-88

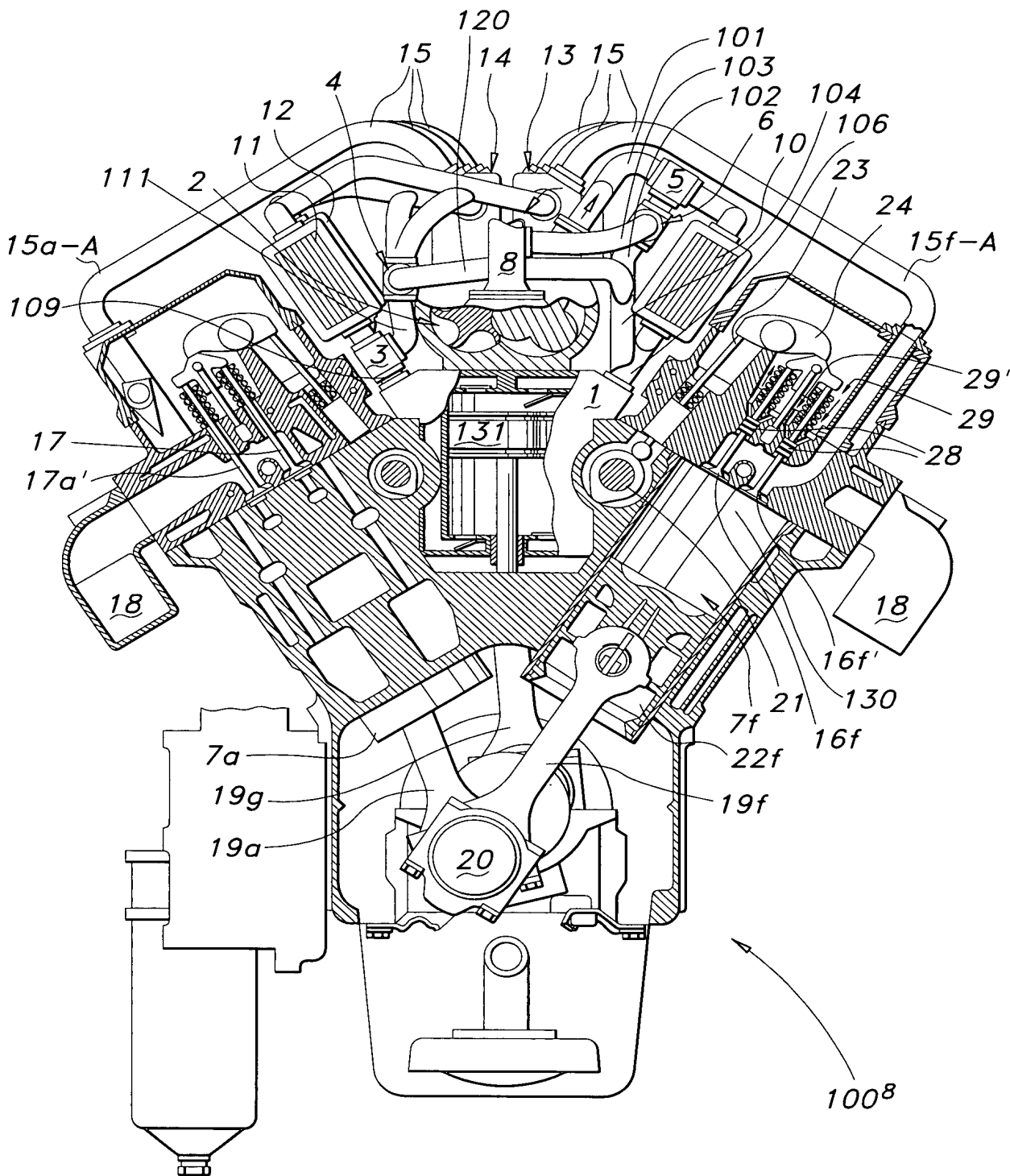


APPROVED	O.G. FIG	SUBCLASS
BY	CLASS	
DRAFTSMAN		



**FIG 7**

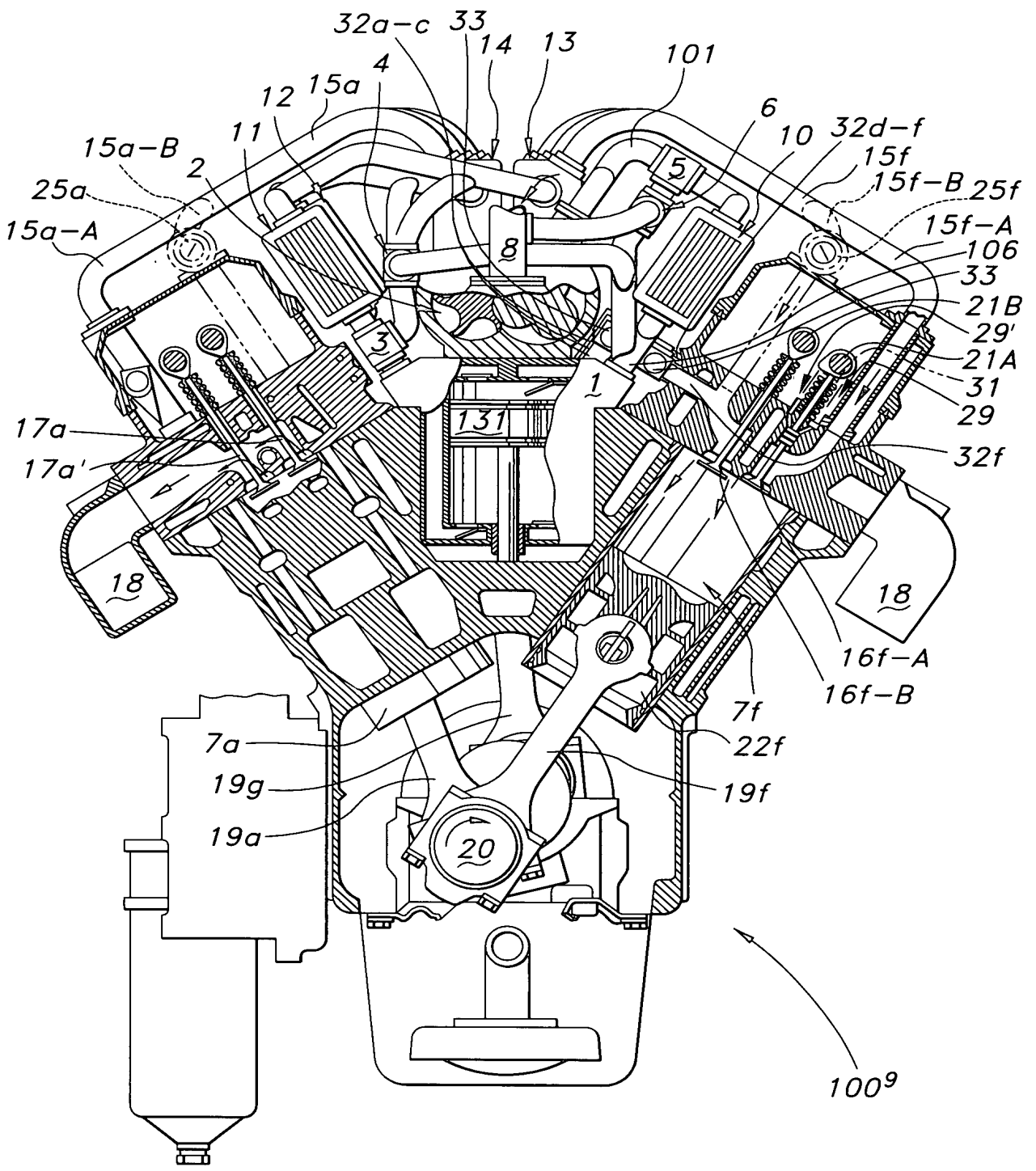
APPROVED	OG FIG	CLASS	SUBCLASS
BY			
DRAFTSMAN			



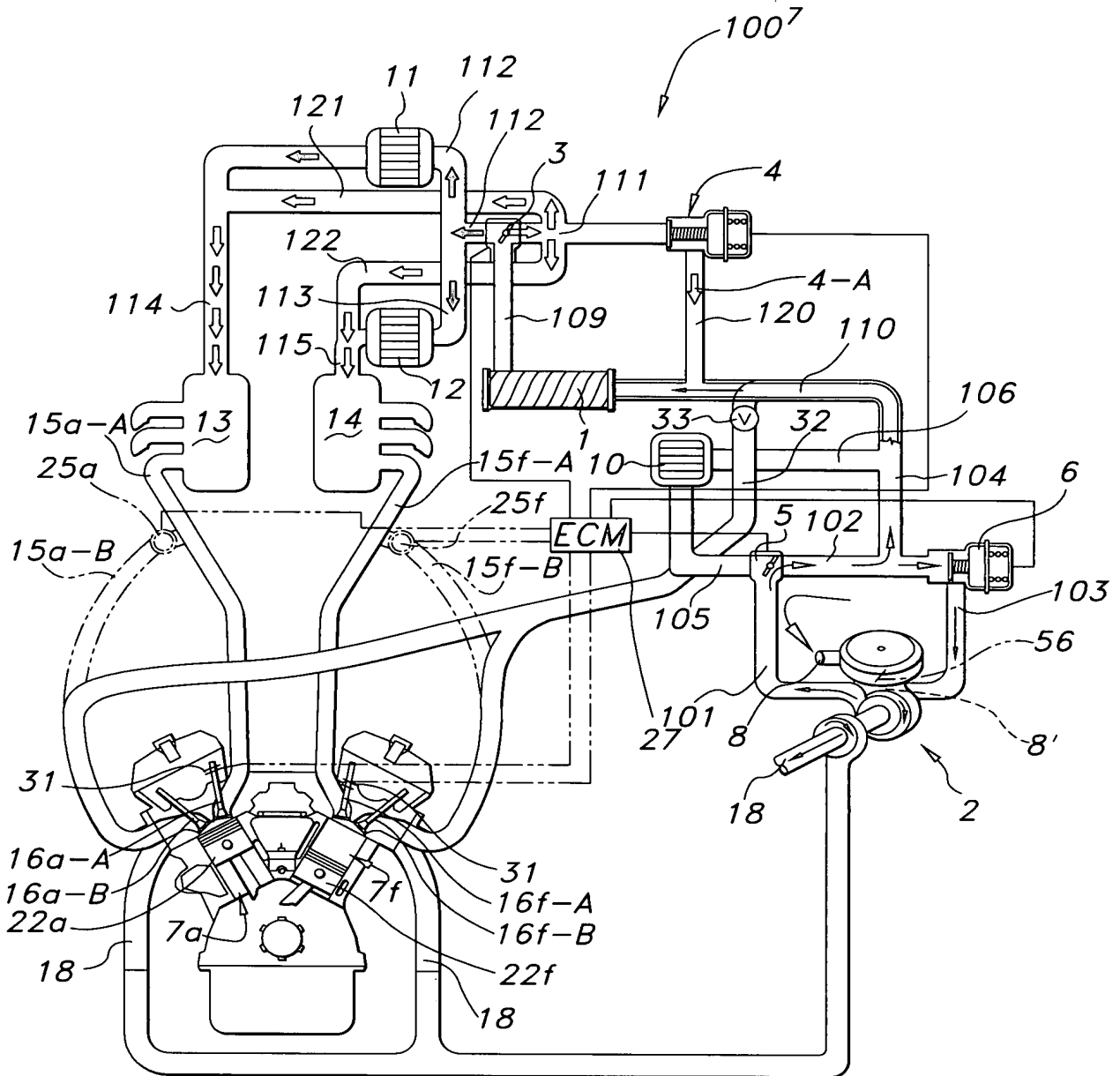
**FIG 8**

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APPROVED	OG FIG
BY	CLASS SUBCLASS
DRAFTSMAN	



**FIG 9**

**FIG 9B**

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APPROVED	BY	DRAFTSMAN
00	FIG	CLASS
		SUBCLASS

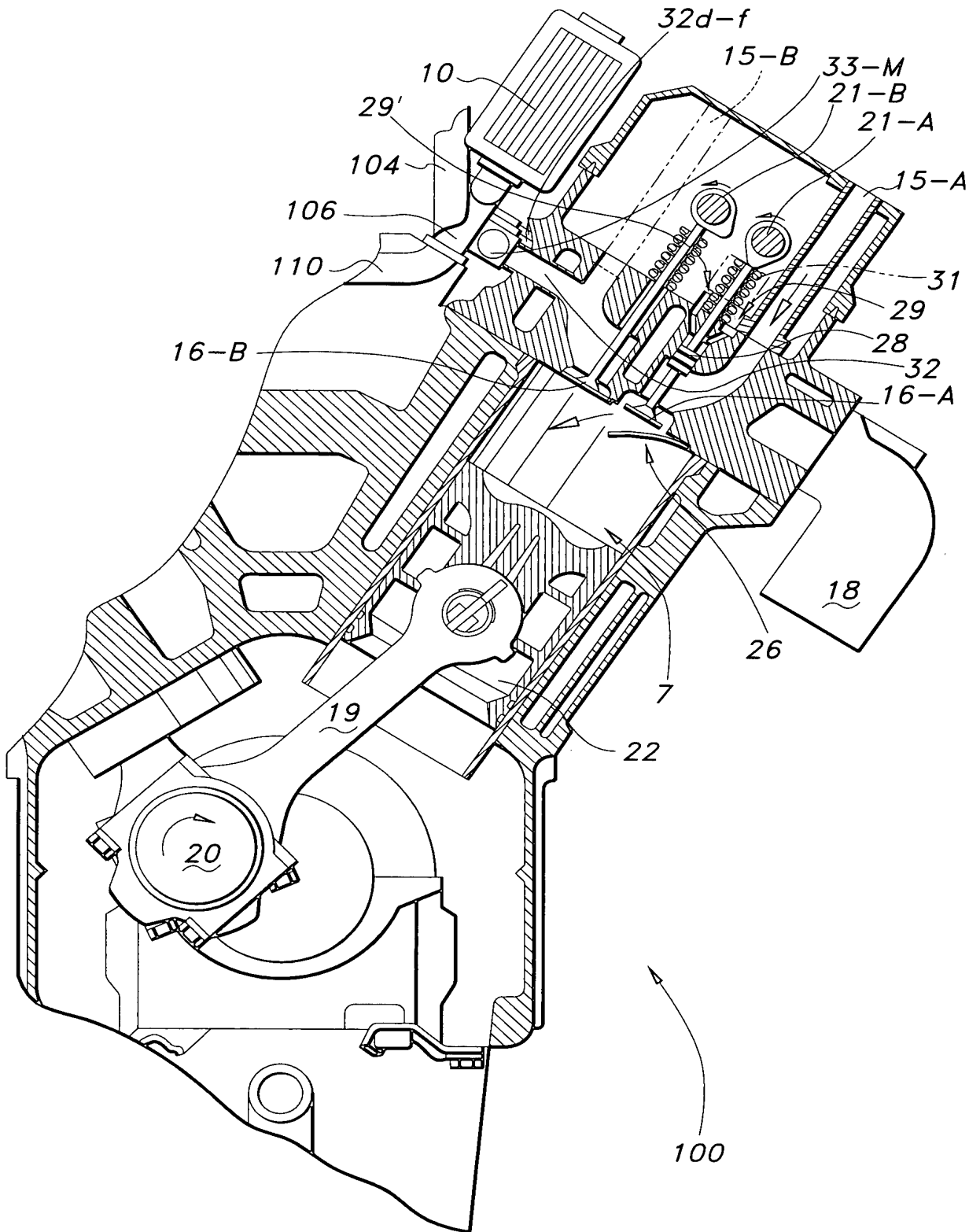
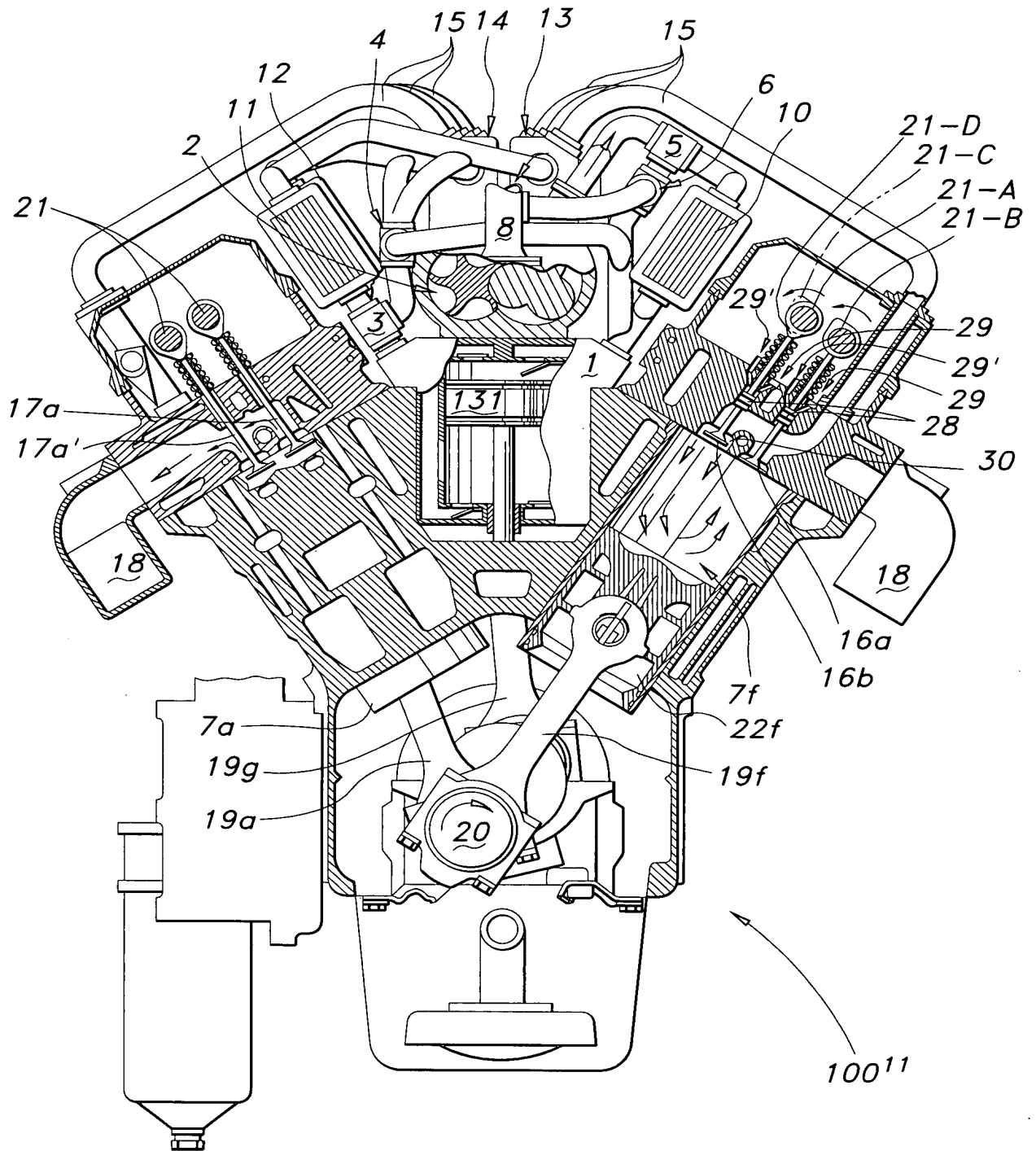


FIG 10

APPROVED	OG FIG	CLASS	SUBCLASS
BY			
DRAFTSMAN			



**FIG 11**



APPROVED	OG FIG
BY	CLASS
DRAFTSMAN	SUBCLASS

# COMPARISON OF OPERATING PARAMETERS OF A HEAVY DUTY TWO-STROKE DIESEL ENGINE (A)

## WITH THE ENGINE OF THIS INVENTION (B)

ENGINE	COMPRESSION RATIO OR NOMINAL COMPRESSION RATIO	EFFECTIVE COMP RATIO	COMPRESSION PRESSURE (PSI)	TEMP @ END COMP (DEG F.)	TEMP @ END COMB (DEG F.)	CHARGE DENSITY (LB./CU. FT.)	EXPANSION RATIO	E.R. C. R.	CHARGE WEIGHT PER REVOLUTION (GRAMS)
A	19:1	19:1	907	1300	3400	1.45	*10:1	0.5	2.06
B(ic)	13:1	2:1	533	250	3000	2.03	**19:1	1.5	2.86
B(bp)	13:1	13:1	533	992	^3100	1.01	**19:1	1.5	1.43
B2(ic)	10:1	2:1	369	250	^2800	1.40	**19:1	1.9	1.98
B2(bp)	10:1	10:1	369	871	^2900	0.75	**19:1	1.9	1.06

\* Exhaust valve opens midstroke

\*\* Exhaust valve opens near BDC

(ic) Air charge intercooled except for last stage of compression

(bp) Intercoolers bypassed

^ Estimated

E.R. = EXPANSION RATIO  
C. R. = COMPRESSION RATIO

APPROVED	O G FIG	
BY	CLASS	SUBCLASS
DRAFTSMAN		

26240-234430

# COMPARISON OF OPERATING PARAMETERS OF A HEAVY DUTY FOUR-STROKE DIESEL ENGINE (A)

WITH THE ENGINE OF THIS INVENTION (B)

ENGINE	COMPRESSION RATIO OR NOMINAL COMPRESSION RATIO	EFFECTIVE COMP RATIO	COMPRESSION PRESSURE (PSI)	TEMP @ END COMP (DEG F.)	TEMP @ END COMB (DEG F.)	CHARGE DENSITY (LB./CU. FT.)	EXPANSION RATIO	E. R. C. R.	CHARGE WEIGHT PER REVOLUTION (GRAMS)
A	19:1	19:1	907	1300	3400	1.45	19:1	1.0	*1.03
B(ic)	13:1	2:1	533	250	3000	2.03	19:1	1.5	**2.86
B(bp)	13:1	13:1	533	992	^3100	1.01	19:1	1.5	**1.43
B2(ic)	10:1	2:1	369	250	^2800	1.40	19:1	1.9	**1.98
B2(bp)	10:1	10:1	369	871	^2900	0.75	19:1	1.9	**1.06

\* Per revolution, not per firing stroke

\*\* Per revolution and per firing stroke

(ic) Air charge intercooled except for last stage of compression

(bp) Intrecoolers bypassed

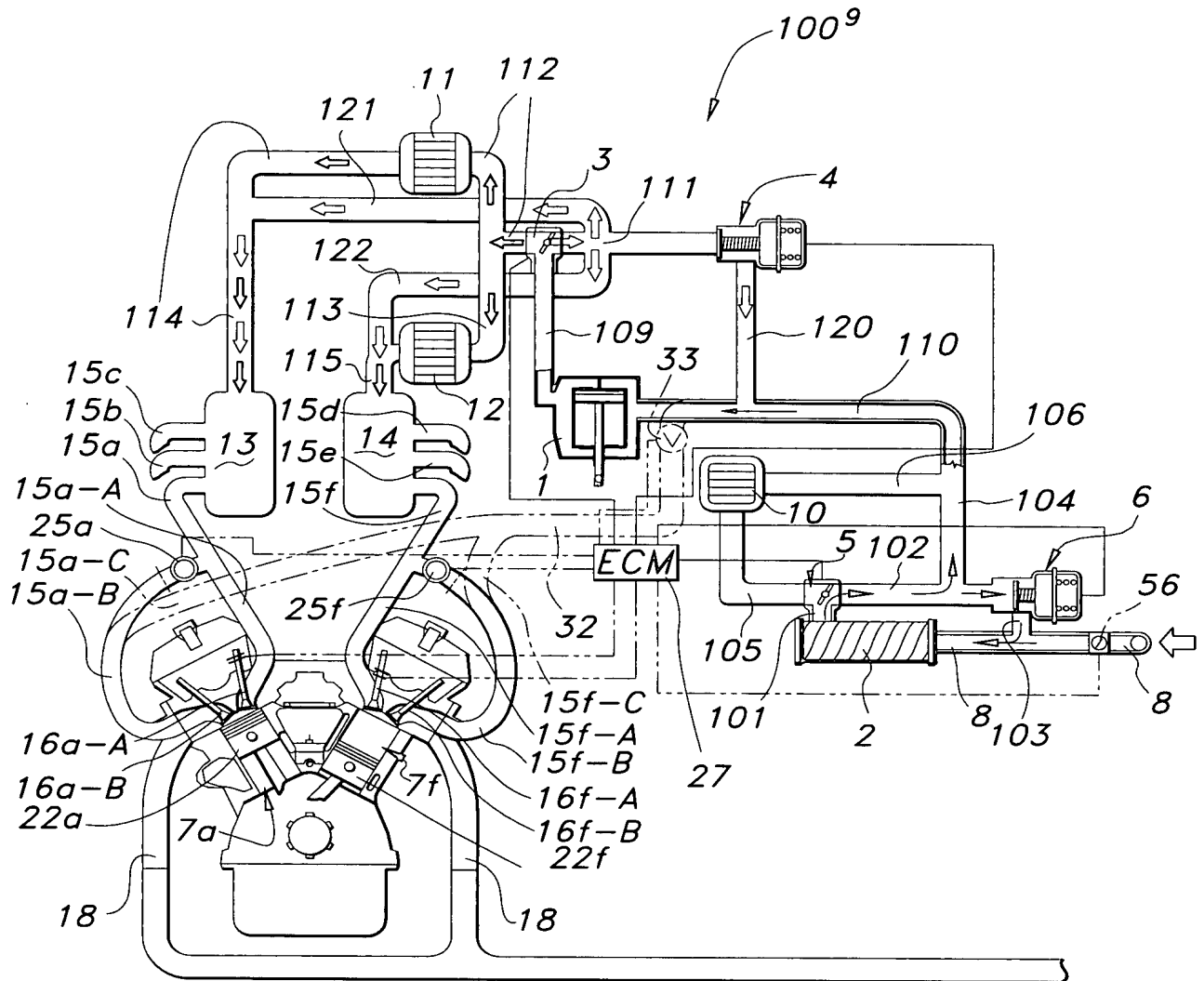
^ Estimated

$$\frac{\text{E. R.}}{\text{C. R.}} = \frac{\text{EXPANSION RATIO}}{\text{COMPRESSION RATIO}}$$

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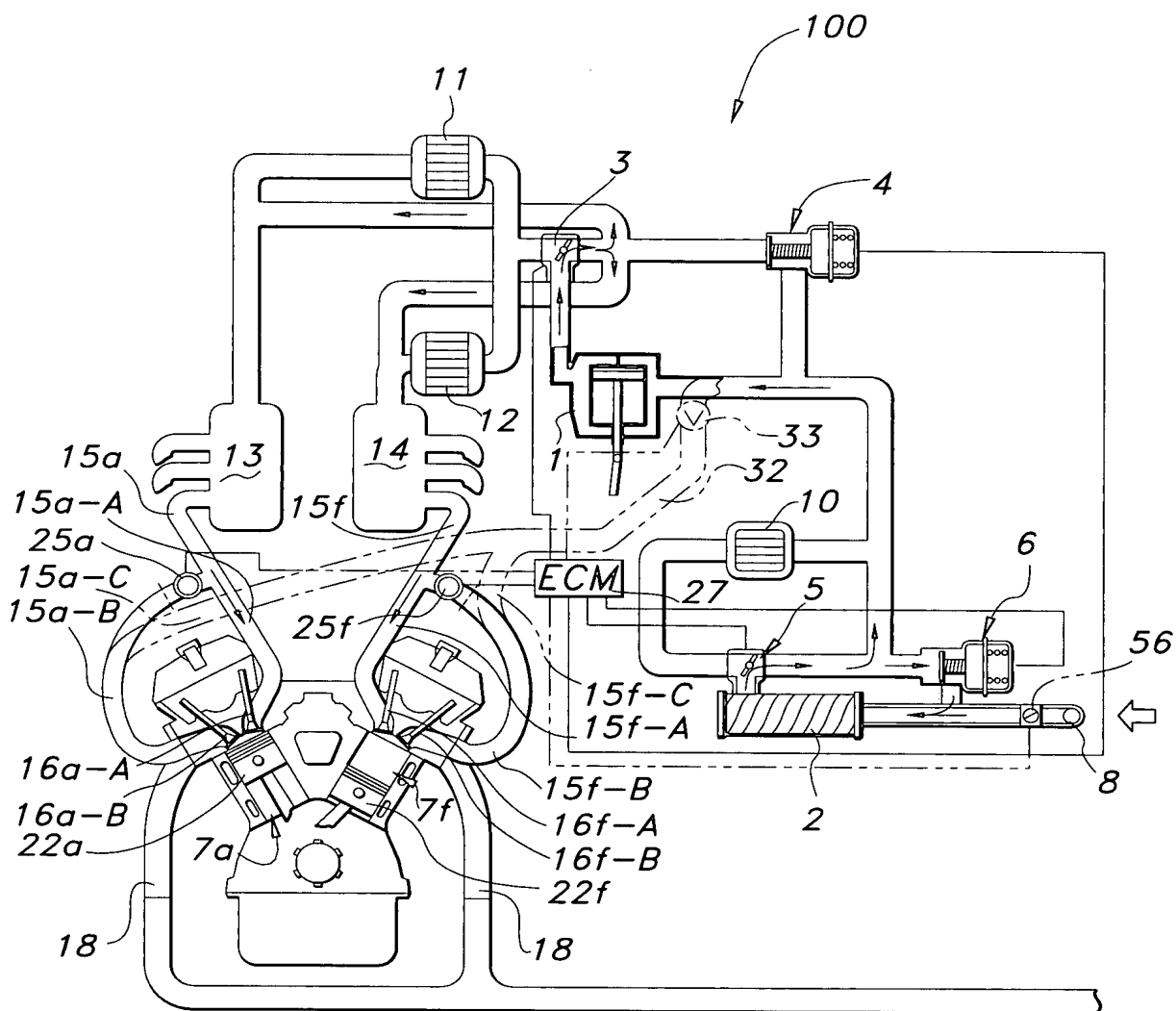
FIG-14

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 CLASS SUBCLASS  
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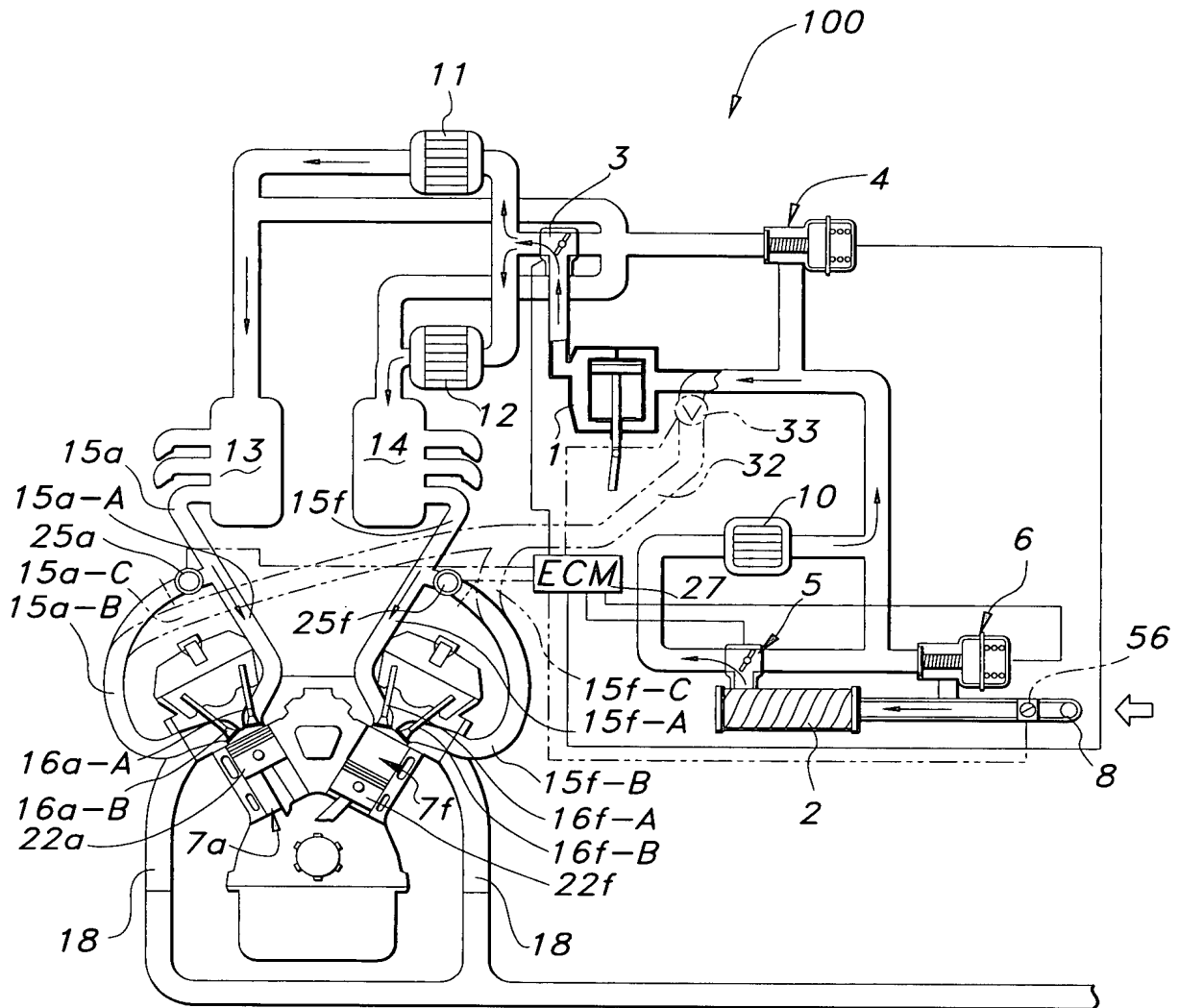
**FIG 15**

APPROVED BY DRAFTSMAN  
 CLASS SUBCLASS  
 CIG

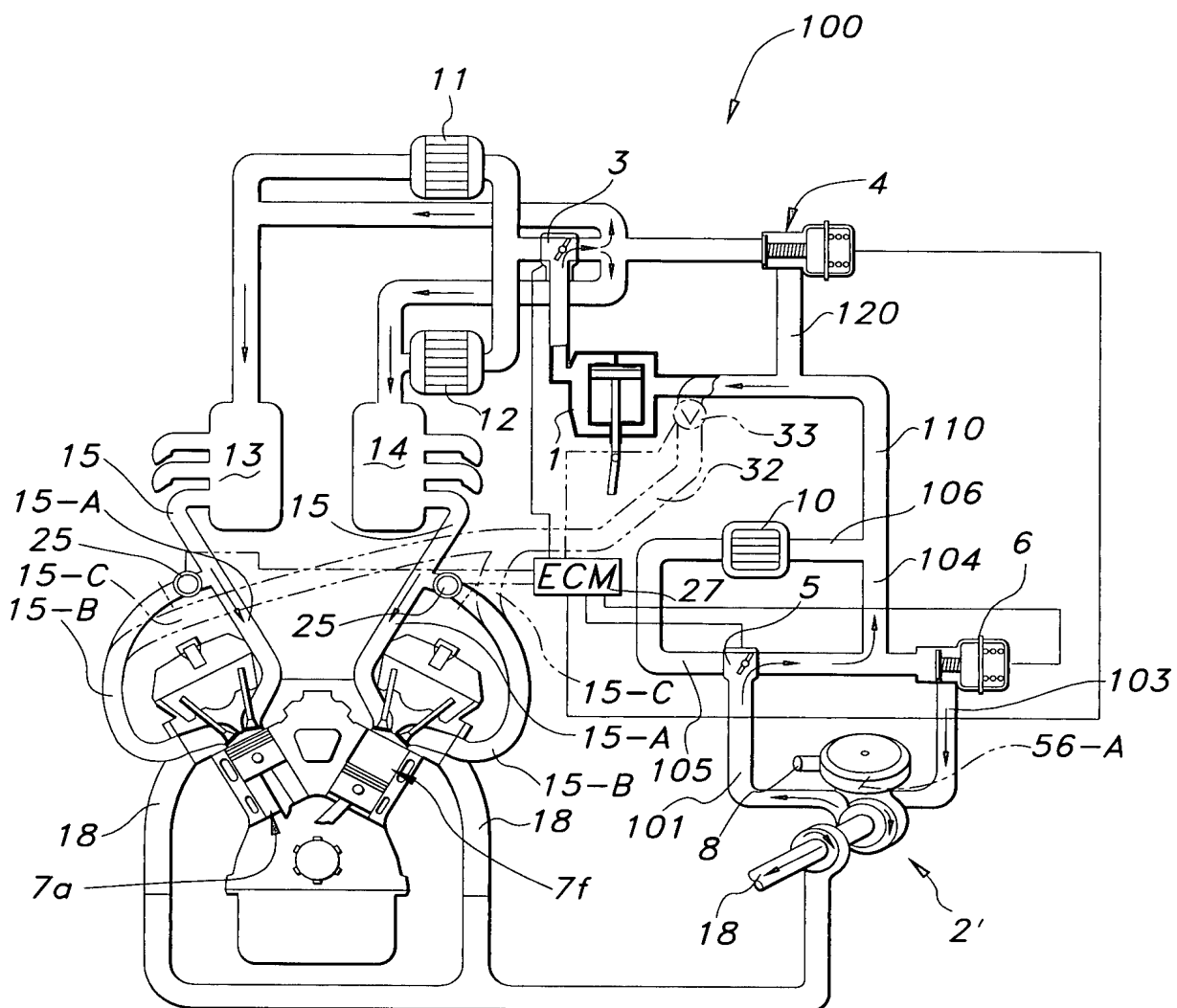


**FIG 16**

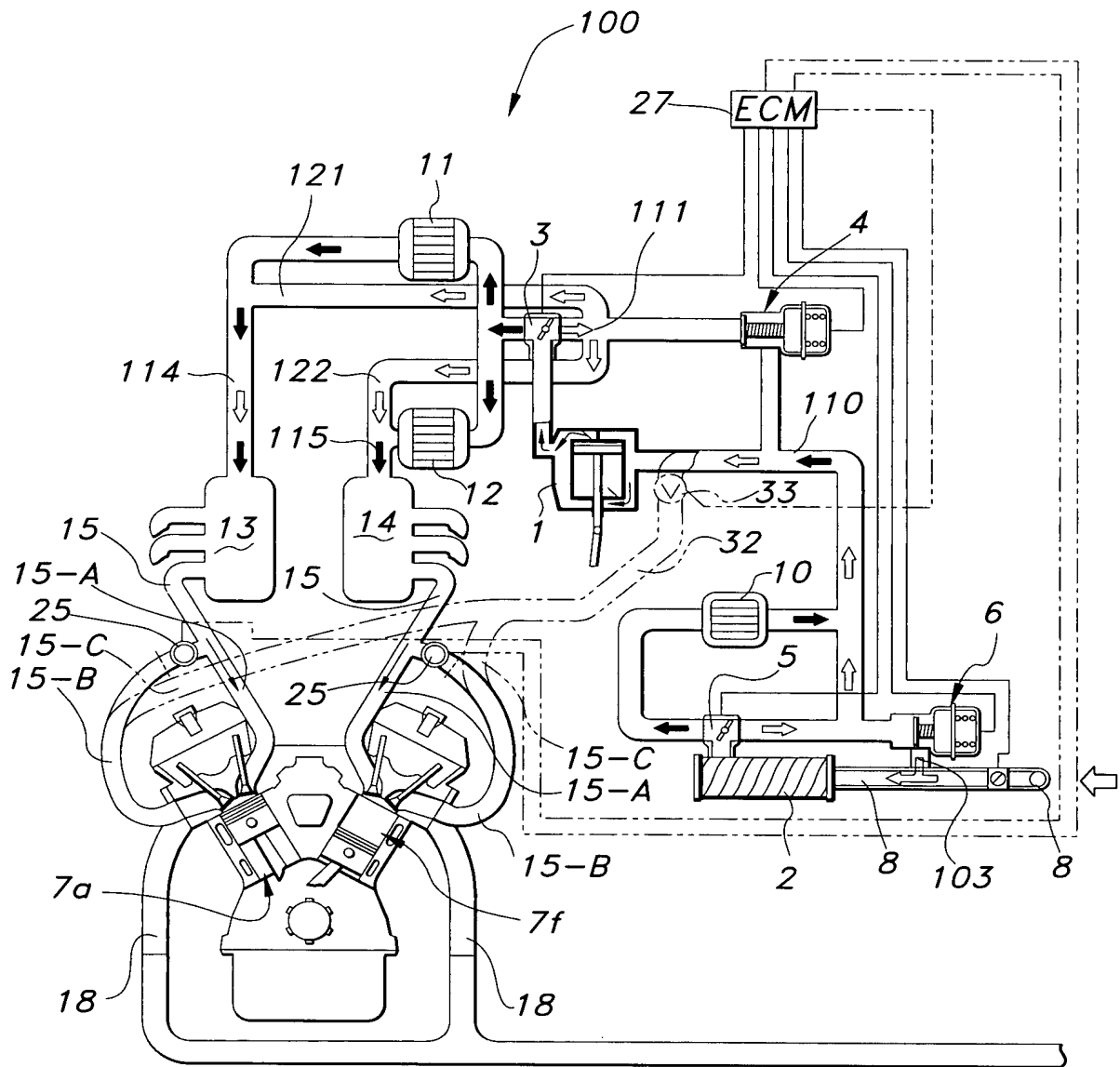
APPROVED	CC	FIG
BY	CLASS	SUBCLASS
DRAFTSMAN		

**FIG 17**

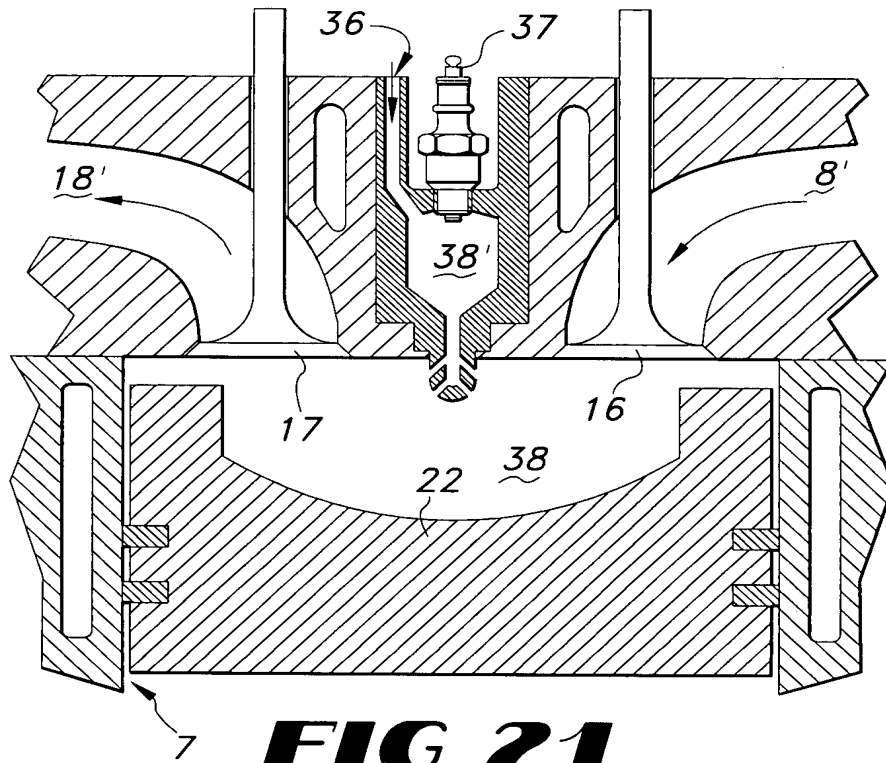
APPROVED	O.G. FIG
BY	CLASS SUBCLASS
DRAFTSMAN	

**FIG 18**

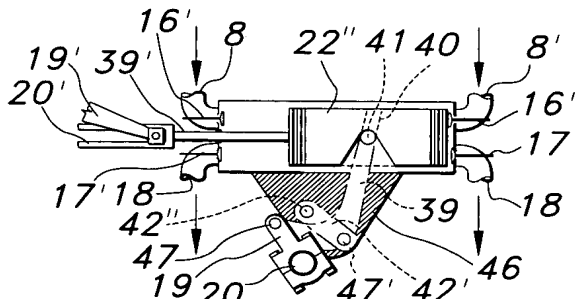
APPROVED	BY	DRAFTSMAN
O.C. GIG	CLASS	SUBCLASS

**FIG 19**

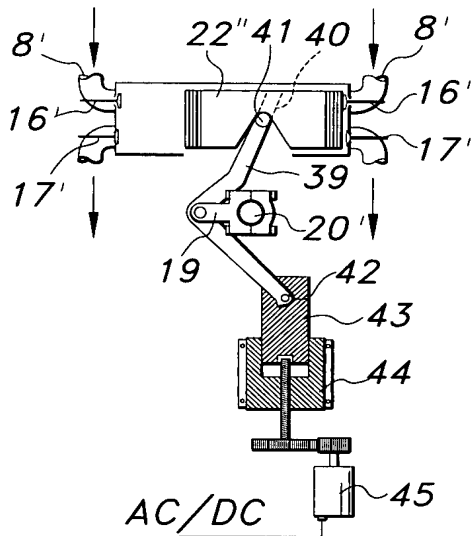




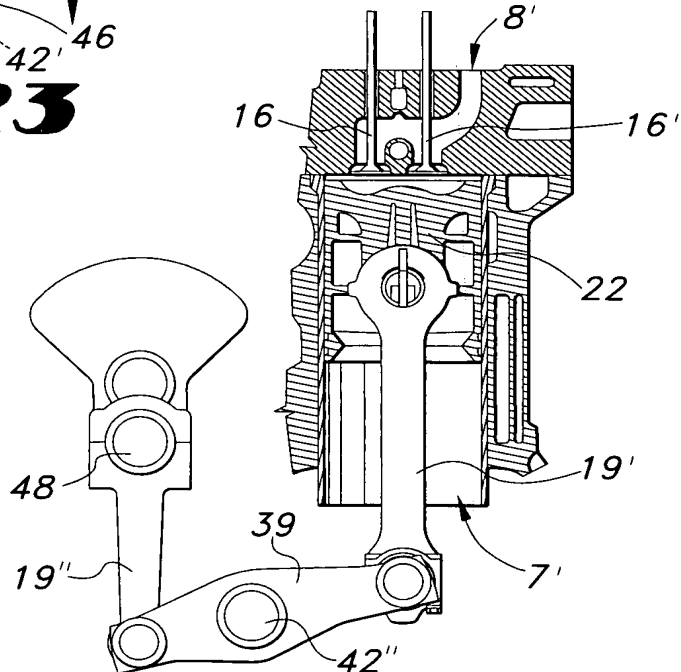
**FIG 21**



**FIG 23**



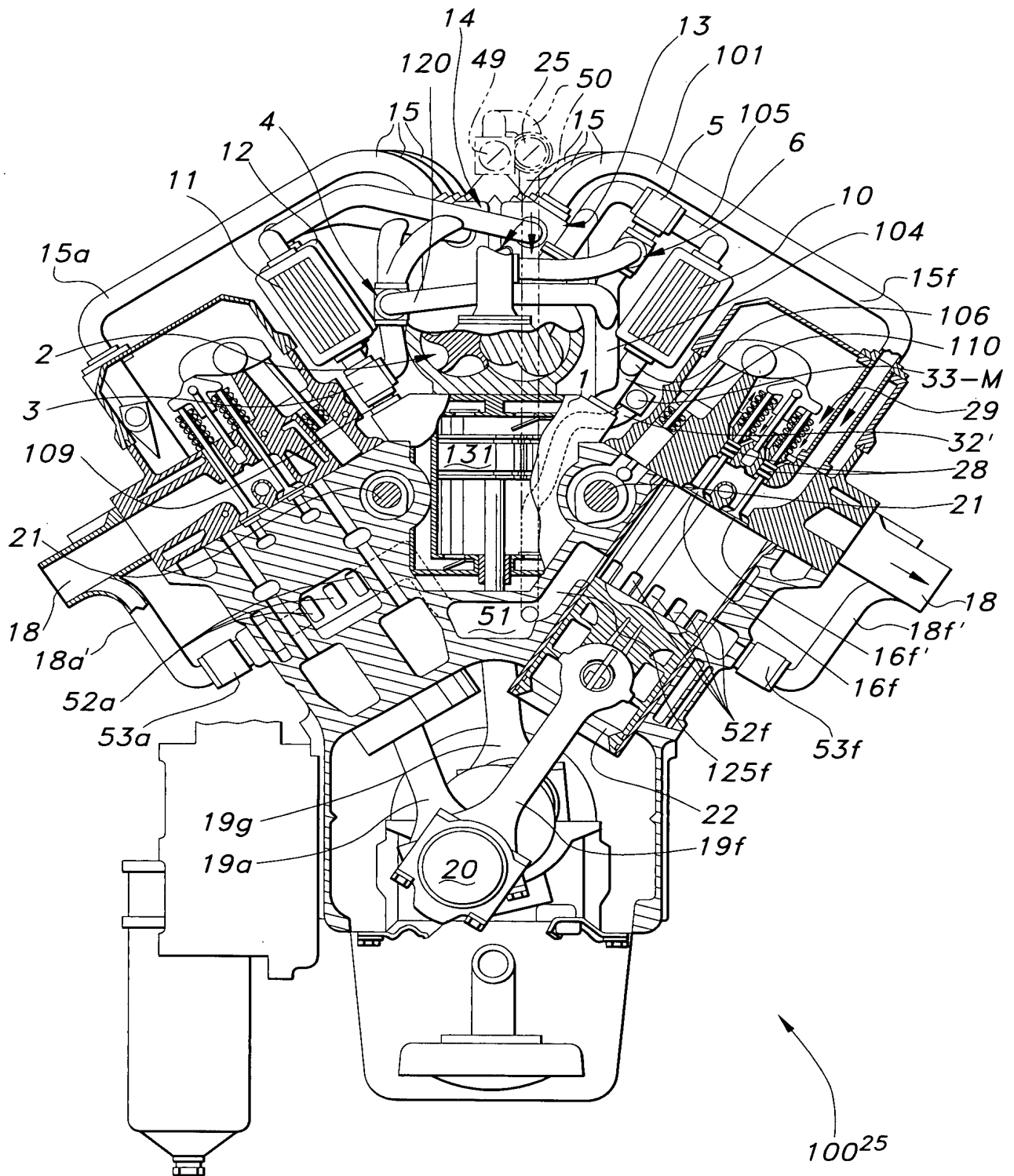
**FIG 22**

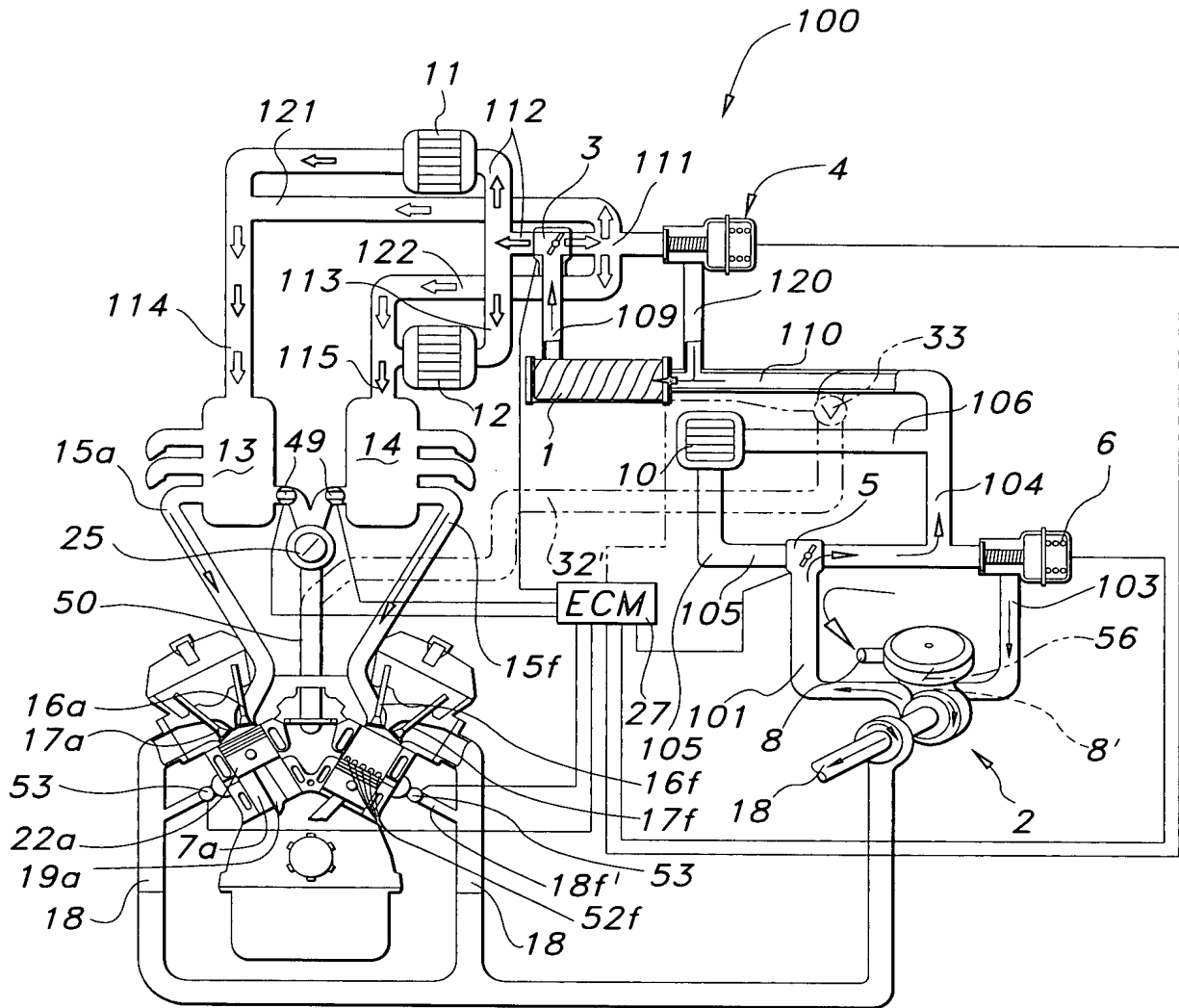
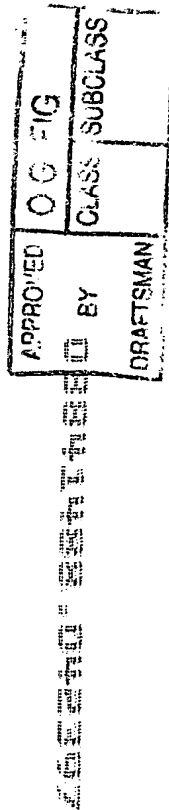


**FIG 24**

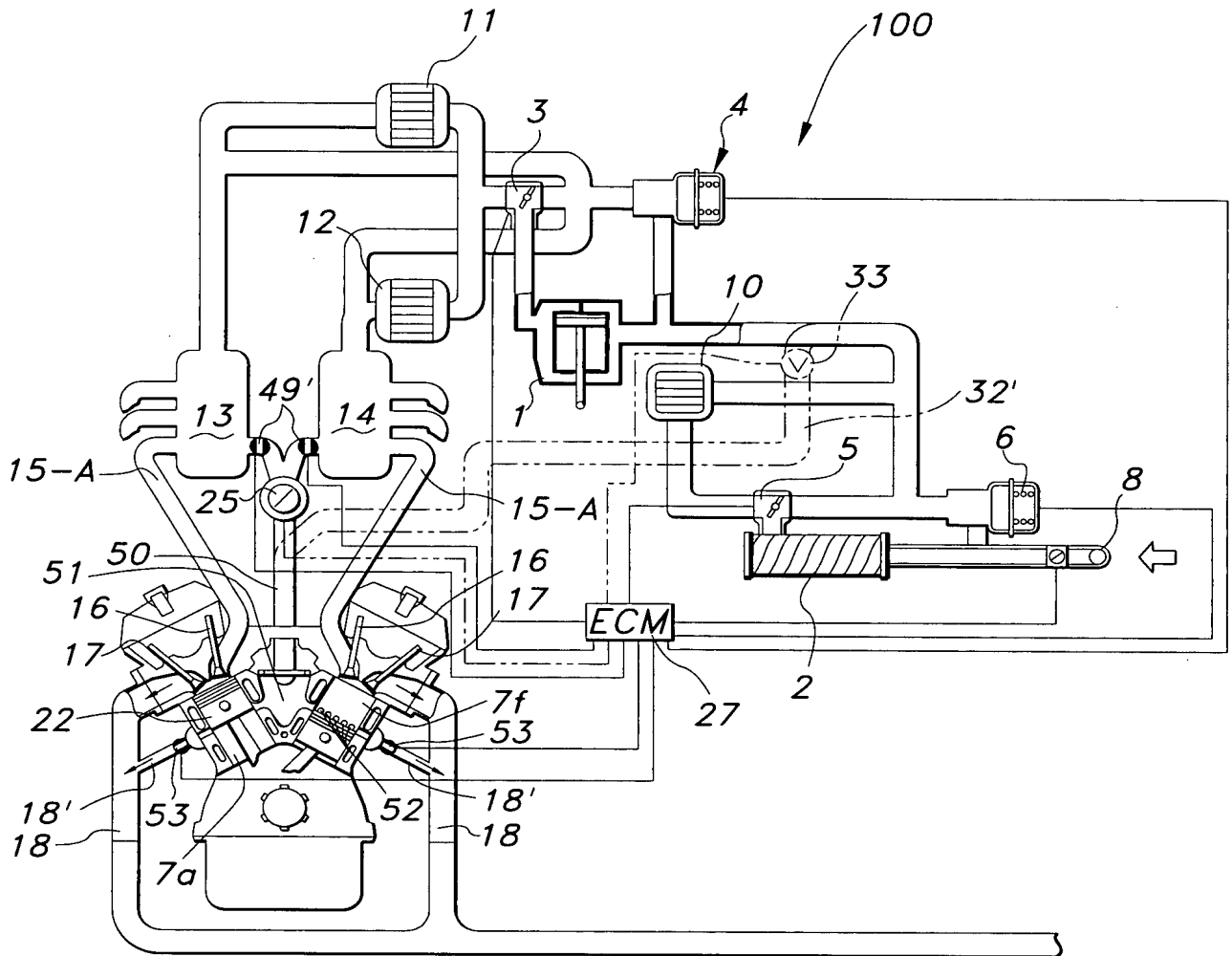
APPROVED	BY	DRAFTSMAN
CLASS	SUBCLASS	

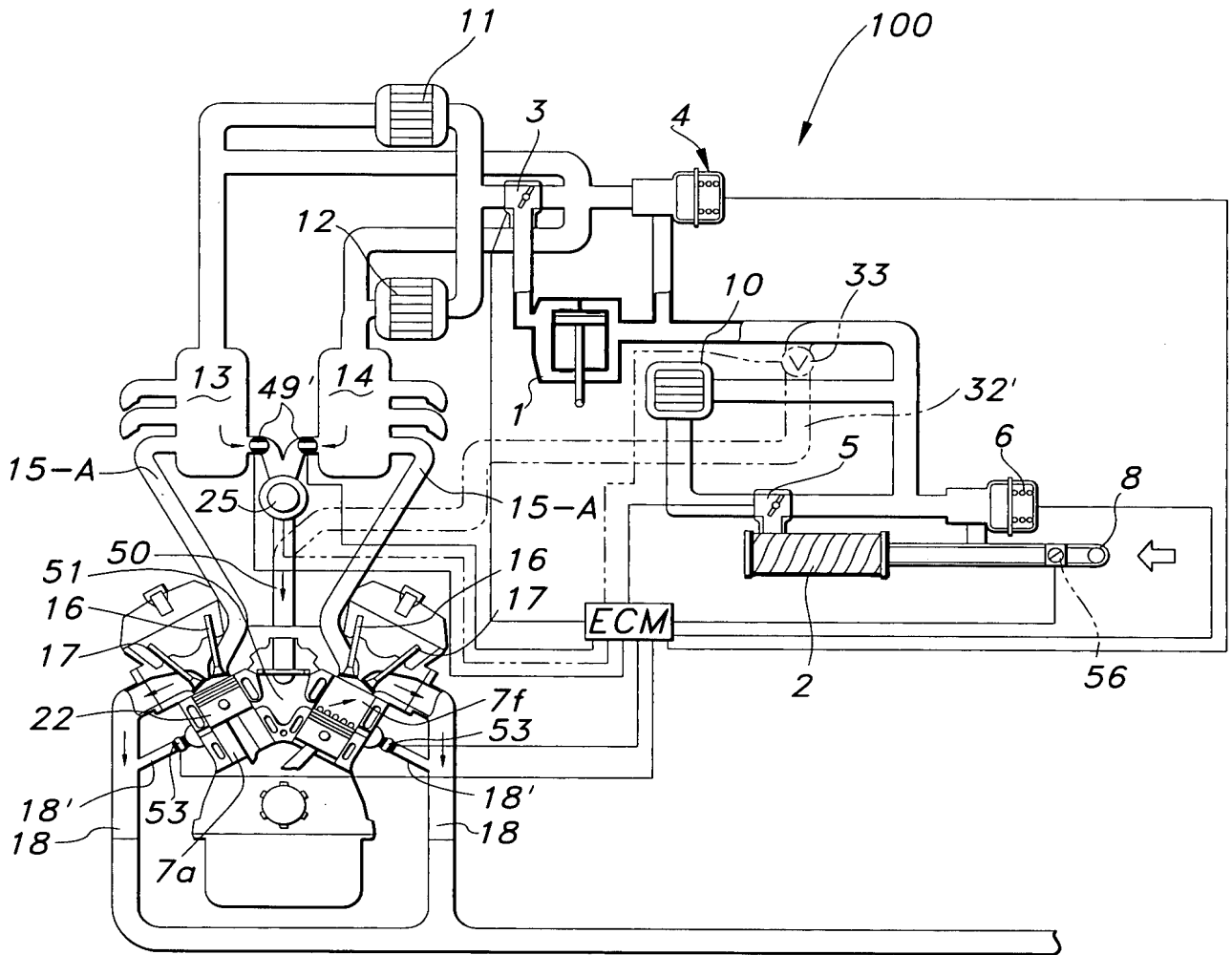
APPROVED	BY	DRAFTSMAN
CLASS	SUBCLASS	

**FIG 25**

**FIG 26**

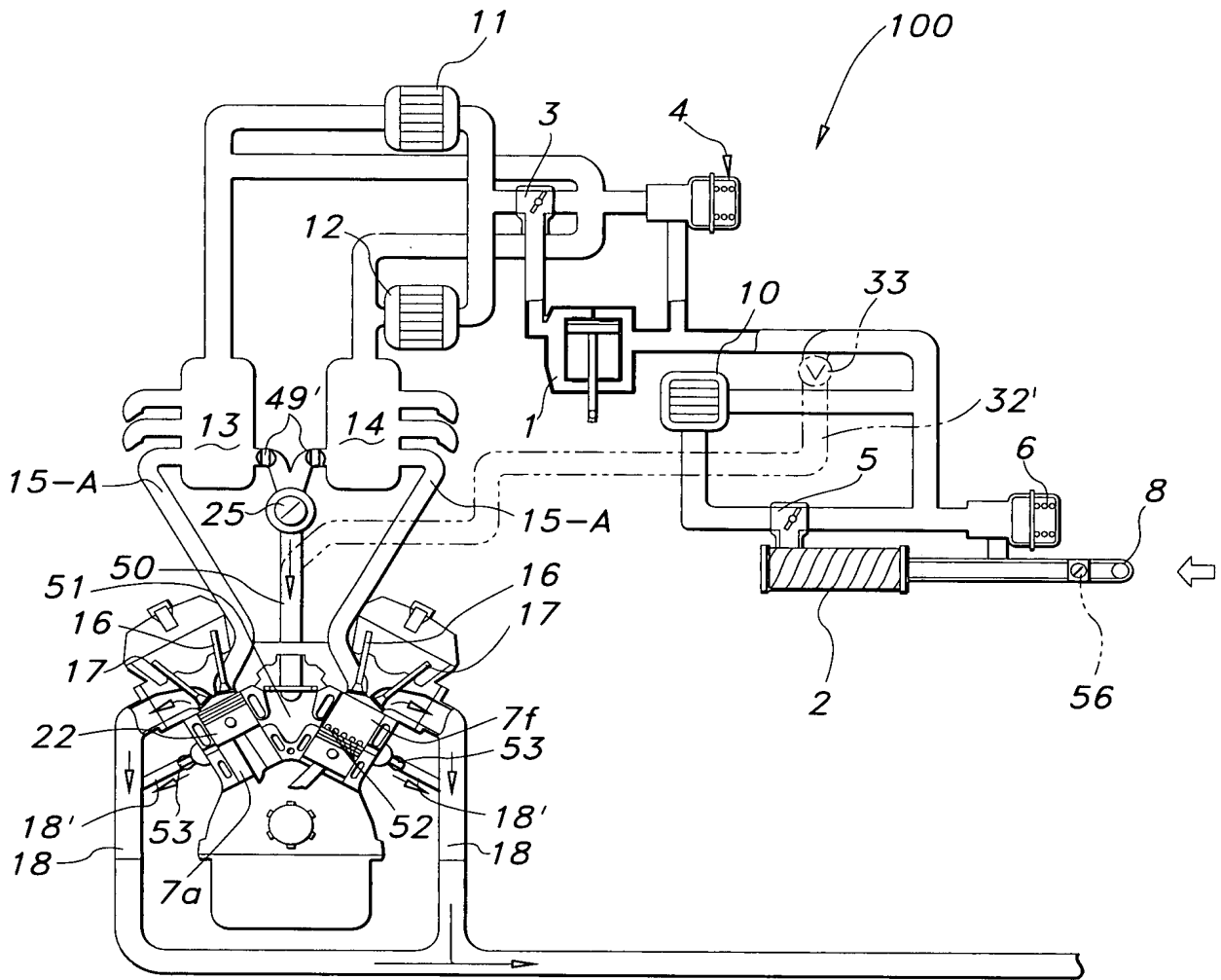
APPROVED	BY	DRAFTSMAN
00	FIG	
CLASS	SUBCLASS	

**FIG 27**

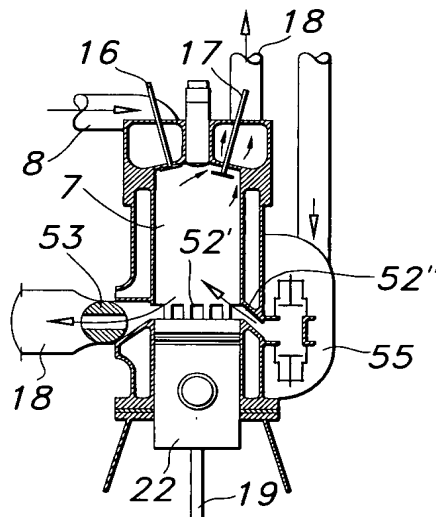


**FIG 28**

APPROVED BY DRAFTSMAN  
O.C. FIG. CLASS SUBCLASS




**FIG 29**

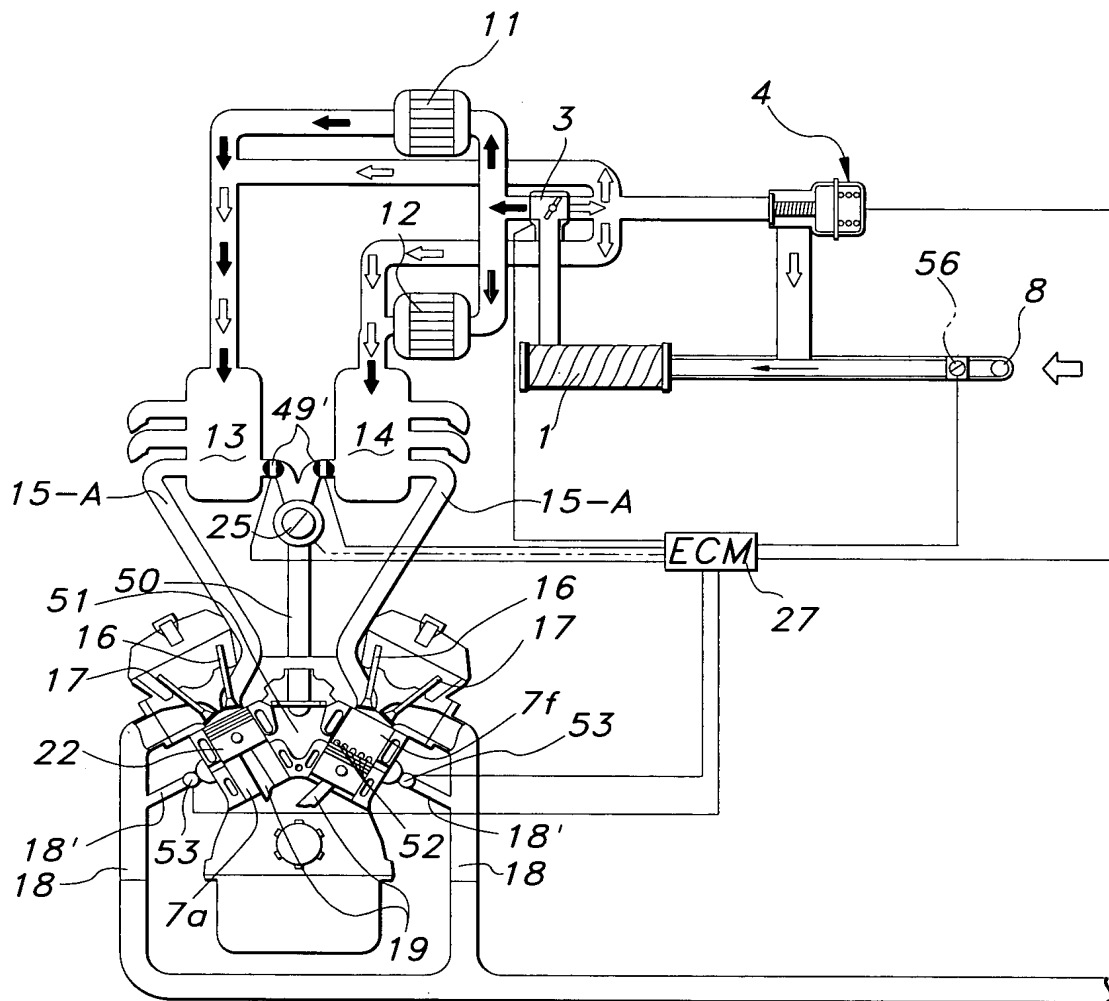


**FIG 30**

APPROVED BY DRAFTSMAN  
O.G. FIG. CLASS SUBCLASS

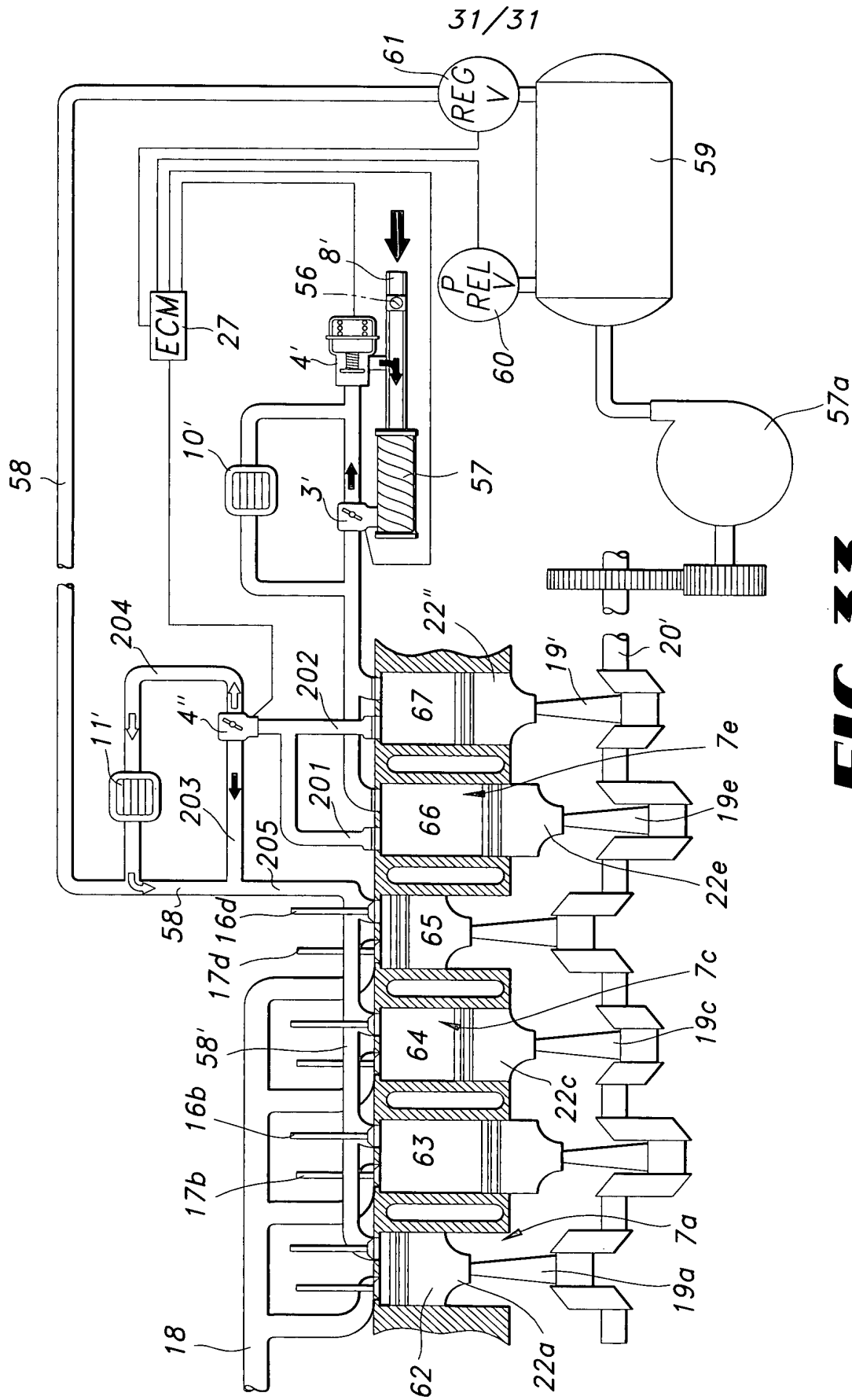


APPROVED	O. G. FIG	CLASS	SUBCLASS
BY			
		DRAFTSMAN	



**FIG 32**

APPROVED	O.G. FIG
BY	CLASS
DRAFTSMAN	SUBCLASS



**FIG 33**